

CLAIMS

1. An axial flow fluid machine operating with steam or gas, comprising a stationary housing; a rotor member having an inner disc, an outer shroud, and a plurality of blades mounted between said disc and said shroud, said shroud at least over a portion of it being provided with a plurality of throughgoing openings formed so that steam or gas flowing radially outwardly through said openings prevents formation of metal and salt oxides on an inner surface of said outer shroud.

2. An axial flow fluid machine as defined in claim 1, wherein said openings are uniformly distributed over said portion of said outer shroud.

3. An axial flow fluid machine as defined in claim 1, wherein said openings are located in a staggered fashion over said portion of said outer shroud.

4. An axial flow fluid machine as defined in claim 1 , wherein said openings are selected so that a diameter of said openings corresponds to the following formula:

$$d = 2 \cdot \sqrt{\frac{(0.02 - 0.50) \cdot S_k}{n \cdot \pi}},$$

wherein n is a number of said openings, and Sk is a surface area of said outer shroud.

5. An axial flow fluid machine as defined in claim 1 ; and further comprising shroud seals including two sealing elements located on an outer surface of said outer shroud or on inner surface of said stationary housing radially facing said outer shroud, said sealing elements providing two radial clearances h1 and h2 between said rotor member and said housing as considered in a flow direction, said clearance h2 being smaller than said clearance h1.